

What is claimed is:

1. A digital amblyopia image aid system provided with
individually adjustable function comprises at
5 least:

an image input apparatus, used to receive the
external original image, and transmit thereof to
image processing apparatus for processing;

10 an image processing apparatus, mainly used to
quantify the patient's vision degeneration degree
first, and simulate the image in the patient's eyes,
to determine the image contrast intensification
parameter, then through the intensification
parameter, instantly make image contrast
15 intensification process for the basic image and the
image boundary of the original image, thereby
obtain the actual image suitable for the vision of
individual patient ;and

20 an image output apparatus, used to display the
practical image after enhancing process.

2. The digital amblyopia image aid system provided
with individually adjustable function of claim 1,
wherein the said image input apparatus consists of
25 a preset system and an image processing kernel.

3. The digital amblyopia image aid system provided
with individually adjustable function of claim 2,
wherein the said preset system is responsible for
quantifying the patient's vision degradation
degree and simulating the image in the patient's
eyes to determine the image contrast
intensification parameter.

4. The digital amblyopia image aid system provided
with individually adjustable function of claim 2,
wherein the said preset system uses the correlation
coefficient of mutual, combined operation to
compare the image information before and after
simulation under different frequency to determine
the image contrast intensification parameter.

5. The digital amblyopia image aid system provided
with individually adjustable function of claim 2,
wherein the said preset system adjusts on the vision
individually for amblyopia patient, which via
linear and non-linear method to simulate the image
seen by the vision disabled to determine the image
contrast intensification parameter, and bases on
the image enhancement effect required for the users
to adjust the image contrast intensification

parameter suitable for oneself to enhance the image contrast information and provide optimum image effect.

5 6. The digital amblyopia image aid system provided with individually adjustable function of claim 5, wherein the linear simulation method is used to simulate the image information that the retinitis pigmentosa patient can identify.

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7. The digital amblyopia image aid system provided with individually adjustable function of claim 5, wherein the non-linear simulation method is used to simulate the image information that the macular degeneration patient can identify.

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8. The digital amblyopia image aid system provided with individually adjustable function of claim 2, wherein the said image processing center comprises a basic image processing unit and an image contrast intensification processing unit.

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9. The digital amblyopia image aid system provided with individually adjustable function of claim 8, wherein the said basic image processing unit is the

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reference intensification parameter, which adjusts the original image for magnification, brightness, high light, image storage and the front and back ground color, etc.

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10. The digital amblyopia image aid system provided with individually adjustable function of claim 8, wherein the said image contrast intensification processing unit enhances the image boundary using
10 the intensification parameter as the base of image contrast intensification.

11. The digital amblyopia image aid system provided with individually adjustable function of claim 10, wherein the said image processing center uses the change for the local luminance mean and the local contrast of the image information, and then multiply which individually by the intensification parameter value of the preset operation, to achieve
20 the image contrast intensification effect.

25 12. The digital amblyopia image aid system provided with individually adjustable function of claim 1, wherein the said image input apparatus is an electronic magnifier, by which the external image

can be obtained instantly.

13. The digital amblyopia image aid system provided
with individually adjustable function of claim 1,
5 wherein the said image input apparatus is an
internet server end, by which the external image
can be obtained instantly.

14. The digital amblyopia image aid system provided
10 with individually adjustable function of claim 1,
wherein the said image input apparatus is a scanner,
by which the external image can be obtained
instantly.

15 15. The digital amblyopia image aid system provided
with individually adjustable function of claim 14,
wherein the said scanner is a hand-type micro
camera.

20 16. The digital amblyopia image aid system provided
with individually adjustable function of claim 14,
wherein the said scanner is a desktop scanner.

17. The digital amblyopia image aid system provided
25 with individually adjustable function of claim 1,

wherein the said image output apparatus is a computer reading platform, which is used to display the image after processing.

5 18. The digital amblyopia image aid system provided
 with individually adjustable function of claim 1,
 wherein the said image output apparatus is equipped
 with control system, which changes the reading
 platform to adopt X-Y axis movable platform, which
10 can be controlled to move by using the direction
 key control platform.

15 19. The digital amblyopia image aid system provided
 with individually adjustable function of claim 1,
 wherein the said image output apparatus is a goggle
 mounted display (GMD), which is used to display the
 image after processing.

20 20. The digital amblyopia image aid system provided
 with individually adjustable function of claim 1,
 wherein through converting the communication
 protocol client end into weblization, there in no
 need for additional setup program, the client end
 can use explorer to obtain the image information
25 of the server end, and the image enhancement process

can made according to the image contrast intensification parameter required for individual person, thereby the inconvenience of program setup thereof can be simplified, and the internet instruction reading effect with cross-platform can be achieved.

21. The digital amblyopia image aid system provided with individually adjustable function of claim 15,
10 wherein the said hand-type scanner uses digital signal processor (DSP) and reset the software part into DSP program in the electronic camera system to meet the system requirement.